

AI and Big Data for Supply Chain Optimization Course

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Course Overview

AI and Big Data for Supply Chain Optimization Course is a one-week advanced course for supply-chain planners, procurement analysts, logistics managers, inventory personnel, operations analysts, and transformation teams. Participants frame AI use cases, assess data readiness, interpret demand and disruption predictions, connect forecasts to inventory and logistics decisions, define human oversight, and monitor deployed models. They leave with a Supply Chain AI Optimization Playbook. Agile Leaders Training Center delivers AI and big data for supply chain optimization training.

Who Should Attend

- Supply-chain planners responsible for demand and supply decisions
- Inventory personnel responsible for replenishment and service levels
- Procurement analysts monitoring suppliers and related risks
- Logistics managers managing lead times, capacity, and exceptions
- Transformation teams governing AI-enabled operational decisions

The course assumes practical supply-chain knowledge and basic data literacy. It excludes data-science coding, platform configuration, and vendor certification.

Departments and Industries

The course supports planning and operations in manufacturing, retail, distribution, healthcare supply, energy, logistics, and public-sector supply networks.

- Supply-chain planning
- Procurement and supplier management
- Inventory and warehouse operations
- Logistics and distribution
- Operations analytics and transformation

Learning Objectives

By the end of this course, participants will be able to:

- Prioritise AI use cases by value, feasibility, and risk
- Assess supply-chain data quality and signal readiness
- Interpret demand forecasts, uncertainty, and accuracy measures
- Connect predictive outputs to inventory, supplier, and logistics decisions
- Define human oversight, monitoring, and exception controls
- Build a Supply Chain AI Optimization Playbook

Course Agenda

Day 1: AI Use Cases and Decision Context

- Supply Chain Decision and Pain-Point Map
- AI Use-Case Value and Feasibility Grid
- Prediction-versus-Optimization Boundary
- Human Decision Right Matrix
- Use-Case Risk and Assumption Register

Day 2: Big Data and Forecast Readiness

- Supply Chain Data Source Inventory
- Demand, Inventory, Supplier, and Logistics Signal Map
- Data Quality and Timeliness Scorecard
- Outlier and Missing-Data Decision Log
- Forecast Baseline and Accuracy Plan

Day 3: Demand and Inventory Optimization

- Forecast Horizon and Granularity Decision
- Probabilistic Forecast Interpretation
- Demand Driver and Scenario Board
- Inventory Policy and Service-Level Link
- Replenishment Recommendation Review Gate

Day 4: Suppliers, Logistics, and Disruptions

- Supplier Risk Signal Framework
- Lead-Time Prediction and Variability Map
- Logistics Capacity and Exception Triage
- Disruption Scenario and Response Options
- Constraint-Aware Decision Comparison

Day 5: Oversight and Operational Monitoring

- Model Output Challenge Checklist
- Human Override and Decision Evidence Log
- Forecast Drift and Performance Dashboard
- Incident, Escalation, and Decommissioning Route
- Capstone Supply Chain AI Optimization Playbook

Practical Exercises

Participants work with realistic supply-chain scenarios and remain responsible for interpreting AI outputs in context.

- Suggested activity: rank demand, inventory, supplier, and logistics use cases
- Suggested activity: assess a fragmented operational data set for readiness
- Suggested activity: compare forecast ranges and inventory responses
- Suggested activity: challenge a disruption recommendation and record the human decision

FAQs

Who suits the AI and Big Data for Supply Chain Optimization Course?

The course suits experienced supply-chain and operations professionals who evaluate or use AI-enabled forecasts, recommendations, and risk signals without needing to build models in code.

How do prediction and optimization differ?

Prediction estimates likely demand, lead time, disruption, or other outcomes. Optimization compares feasible actions against objectives, constraints, costs, service requirements, and risk.

Why use probabilistic forecasts?

Probabilistic forecasts show a range of plausible outcomes rather than one point estimate, helping planners connect uncertainty with inventory, capacity, and service decisions.

What human oversight is needed?

Oversight defines who reviews outputs, challenges assumptions, authorises actions, records overrides, monitors performance, escalates incidents, and suspends or retires an unsuitable model.

What belongs in a Supply Chain AI Optimization Playbook?

The playbook contains use-case priorities, data and signal maps, readiness checks, forecast measures, decision rules, scenario tools, human rights, monitoring indicators, and escalation routes.

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Conclusion

Participants take back a governed approach for turning supply-chain data and AI outputs into accountable decisions. The Supply Chain AI Optimization Playbook links forecasts and risk signals to operational constraints, human judgment, performance monitoring, and continuous review.

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